We Claim:

1. An electrochemical cell assembly, comprising:

a. an electrochemical cell comprising a container having a wall defining an interior volume, said cell further comprising a primary anode, a primary cathode and an electrolyte; and

b. a gas pocket detection assembly detecting at least one of formation and enlargement of a gas pocket in said container.

2. The electrochemical cell assembly of claim 1, wherein said gas pocket detection assembly comprises a secondary cathode detecting loss of electrolyte between said secondary cathode and a detector anode.

3. The electrochemical cell assembly of claim 2, wherein said detector anode is said primary anode.

4. The electrochemical cell assembly of claim 2, wherein said detector anode is a secondary anode.

5. The electrochemical cell assembly of claim 1, wherein said wall of said container comprises a first clear portion and a second clear portion suitably configured so that a light beam can pass through said container, said gas pocket detector assembly comprising:

(i) a light beam source adjacent to said first clear portion, directing a light beam on a path through said first clear portion and said second clear portion of said container; and

(ii) a light beam detector detecting said light beam exiting from said container through said second clear portion and producing a first signal when said light beam travels a direct path through said interior volume of said container when no gas pocket in said electrolyte is located in said path of said light beam or said refracted path and a second signal when said light beam travels a refracted path through said interior volume of said container when no gas pocket is present in said electrolyte in said path of said light beam.

6. The electrochemical cell of claim 5, wherein said light beam source is a laser.

7. The electrochemical cell of claim 5, wherein said wall is substantially clear.

8. The electrochemical cell of claim 5, wherein said container is cylindrical and has end portions, said wall is annular, and said primary anode and primary cathode are located adjacent to said end portions.

9. The electrochemical cell of claim 8, wherein said annular wall is substantially clear.

10. The electrochemical cell of claim 5, wherein said light beam detector is located in said refracted path and not in said direct path.

11. The electrochemical cell of claim 5, wherein said light beam detector is located in said direct path and not in said refracted path.

12. The electrochemical cell of claim 5, wherein a beam detector is located in said direct path and a second light beam detector is located in said refracted path.

13. The electrochemical cell of claim 1, further comprising an alarm circuit in electrical communication with said gas pocket detection assembly said alarm circuit monitoring the cell for one of formation of and enlargement of a gas pocket in said container.

14. A method for predicting failure of an electrochemical cell comprising a container having a wall defining an interior volume, the cell further comprising a primary anode, a primary cathode and an electrolyte, the method comprising the steps of:

a) configuring a gas pocket detection assembly to detect at least one of formation and enlargement of a gas pocket in the container; and

b) monitoring the cell with the gas pocket detection assembly for at least one of formation and enlargement of a gas pocket in the container.

15. The method of claim 14, wherein the gas pocket detection assembly comprises a secondary cathode detecting loss of electrolyte between the secondary cathode and a detector anode.

16. The method of claim 15, wherein the detector anode is the primary anode.

17. The method of claim 15, wherein the detector anode is a secondary anode.

18. The method of claim 14, wherein the wall of the container comprises a first clear portion and a second clear portion suitably configured so that a light beam can pass through the container between the primary anode and the primary cathode, the gas pocket detector assembly comprising:

(i) a light beam source adjacent to said first clear portion, directing a light beam on a path through the first clear portion and the second clear portion of the container; and

(ii) a light beam detector detecting said light beam exiting from the container through the second clear portion and produce a first signal when the light beam travels a direct path through the interior volume of the container when no gas pocket in the electrolyte is located in the path of the light beam or said refracted path and a second signal when the light beam travels a refracted path through the interior volume of the container when no gas pocket is present in the electrolyte in said path of the light beam.

19. The method of claim 18, wherein the light beam source is a laser.

20. The method of claim 18, wherein the wall is substantially clear.

21. The method of claim 18, wherein the container is cylindrical and has end portions, the wall is annular, and the primary anode and the primary cathode are located adjacent to the end portions.

22. The method of claim 21, wherein the annular wall is substantially clear.

23. The method of claim 18, wherein the light beam detector is located in the refracted path and not in the direct path.

24. The method of claim 18, wherein the light beam detector is located in the direct path and not in the refracted path.

25. The method of claim 18, wherein the beam detector is located in the direct path and a second light beam detector is located in the refracted path.

26. The method of claim 14, further comprising an alarm circuit in electrical communication with the gas pocket detection assembly the alarm circuit monitoring the cell for one of formation and enlargement of a gas pocket in the container.

27. A method for detecting gas bubbles in an electrochemical cell comprising a wall defining an internal volume, a primary anode, a primary cathode and an electrolyte, comprising the step of directing a light beam through the interior volume of the electrochemical cell at one or more light beam detectors producing a first signal when a gas pocket is located in the path of the light beam.

28. The method of claim 27, wherein the light source is a laser.

29. The method of claim 27, wherein the electrochemical cell is a gas sensor.

30. The method of claim 27, wherein the electrochemical cell is an oxygen sensor.

31. A method for retrofitting an electrochemical gas sensor assembly comprising an electrochemical cell comprising a container having a wall defining an interior volume, the cell further comprising a primary anode, a primary cathode and an electrolyte, the method comprising the step of attaching a gas pocket detection assembly to the gas sensor assembly, the gas pocket detection assembly detecting at least one of formation and enlargement of a gas pocket in said container.

32. A kit for retrofitting an electrochemical gas sensor device, comprising a gas pocket detector assembly that is suitably configured to attach to said gas sensor device to detect at least one of formation and enlargement of a gas pocket in an electrochemical cell in said gas sensor device.

33. A kit for retrofitting an electrochemical gas sensor device including an electrochemical cell comprising a container having a wall defining an interior volume, said cell further comprising a primary anode, a primary cathode and an electrolyte, the kit comprising a bracket or brackets configured to engage a structure in said gas sensor device other than said electrochemical cell and further configured: 1) to position a light beam source to direct a light beam on a path through said interior volume of said cell, and 2) to position a light beam detector to detect said light beam exiting from said interior volume of said cell, said detector producing a first signal when said light beam travels a direct path through said interior volume of said container when no gas pocket in said electrolyte is located in said path of said light beam or said refracted path and a second signal when said light beam travels a refracted path through said interior volume of said container when no gas pocket is present in said electrolyte in said path of said light beam.

34. The kit of claim 33, further comprising a light beam source.

35. The kit of claim 34, wherein said light beam source is a laser.

36. The kit of claim 33, further comprising a light beam detector.

37. The kit of claim 36, further comprising a light beam source.

38. The kit of claim 33, wherein said electrochemical cell is a gas sensor.

39. The kit of claim 33, wherein said electrochemical cell is an oxygen sensor.

40. The kit of claim 33, further comprising an electrochemical cell.

41. The kit of claim 33, further comprising computer software and/or hardware comprising an alarm circuit configured to be in electrical communication with said gas pocket detection assembly to monitor the cell for at least one of formation and enlargement of a gas pocket in said container.